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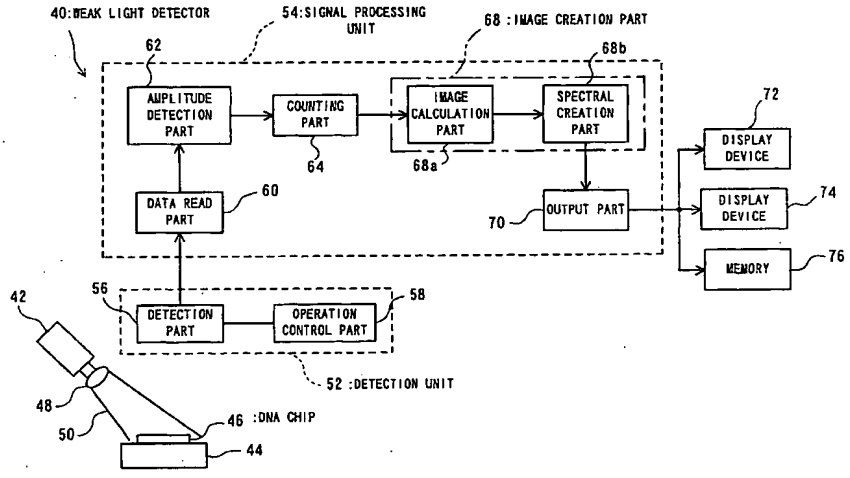
(54) Title: TWO-DIMENSIONAL WEAK RADIATION DETECTOR



(57) Abstract: A weak light detector (40) which can detect two-dimensional weak radiation at a high speed with high precision. The fluorescence from the DNA chip (46) is incident on a detection part (56) of a detection unit (52). The detection unit (56) has a detection module with a number of detection transistors being placed to correspond to cells of the DNA chip (46). The detection part (56) performs photoelectric conversion of the incident fluorescence (photon) to emit electrons, and amplifies the electrons to make them incident on the detection module. The detection transistors are switched based the Hadamard matrix to operate. A data processing unit (54) reads an output signal of the detection part (56), then performs Hadamard inversion, and determines the detection transistor which outputs the signal.

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